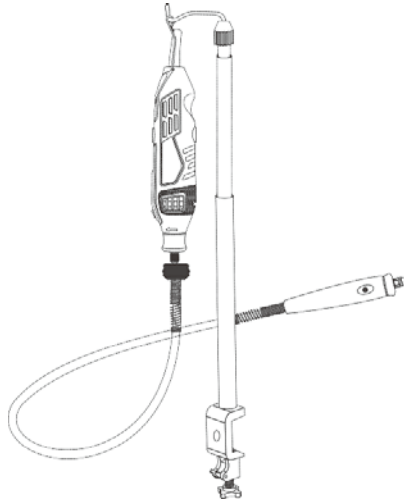


BENCHMARKTM_{MC}

ELECTRONIC ROTARY TOOL KIT



LIMITED
5 YEAR*
WARRANTY

5 year limited warranty on tool



JD3317U

**READ ALL INSTRUCTIONS BEFORE FIRST USE.
KEEP THIS MANUAL FOR FUTURE REFERENCE.
KEEP AWAY FROM CHILDREN.**



**WEAR CSA APPROVED
EYE PROTECTION**



**WEAR EAR
PROTECTION**



**WEAR A
FACE MASK**

PRODUCT SPECIFICATIONS

BENCHMARK 1.6 AMP ROTARY TOOL

| | |
|----------------|----------------------------|
| Rating | 120V, 60Hz, AC |
| Amperes | 1.6 Amp |
| RPM | 5,000–35,000 RPM (no load) |
| Chuck type | 3-jaw |
| Chuck capacity | 1/16" to 1/8" |
| Weight | 5.1lb (2.3 kg) |

NEED ASSISTANCE?

Call us on our toll- free customer support line:
1-866-349-8665 (Monday through Friday 9am – 5pm Eastern Standard Time)

- Technical questions
- Replacement parts
- Parts missing from package

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GENERAL SAFETY WARNINGS

WARNING:

Before using this tool or any of its accessories, read this manual and follow all Safety Rules and Operating Instructions. The important precautions, safeguards and instructions appearing in this manual are not meant to cover all possible situations. It must be understood that common sense and caution are factors which cannot be built into the product.

EYE, EAR & LUNG PROTECTION

| SYMBOL | MEANING |
|--|---|
|  DANGER  | <p>ALWAYS WEAR EYE PROTECTION THAT CONFORMS WITH CSA Z94.3 or ANSI SAFETY STANDARD Z87.1 FLYING DEBRIS can cause permanent eye damage. Prescription eyeglasses ARE NOT a replacement for proper eye protection. Non-compliant eyewear can cause serious injury if broken during the operation of a power tool.</p> |
|  WARNING  | <p>Use hearing protection, particularly during extended periods of operation of the tool, or if the operation is noisy.</p> |
|  WARNING  | <p>WEAR A DUST MASK THAT IS DESIGNED TO BE USED WHEN OPERATING A POWER TOOL IN A DUSTY ENVIRONMENT. Dust that is created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals that are known to cause cancer, birth defects, or other genetic abnormalities. These chemicals include:</p> <ul style="list-style-type: none"> • Lead from lead-based paints • Crystalline silica from bricks, cement, and other masonry products • Arsenic and chromium from chemically treated lumber. <p>The level of risk from exposure to these chemicals varies, according to how often this type of work is performed. In order to reduce exposure to these chemicals, work in a well-ventilated area, and use approved safety equipment, such as a dust mask that is specifically designed to filter out microscopic particles.</p> |

ELECTRICAL SAFETY

WARNING:

To avoid electrical hazards, fire hazards or damage to the tool, use proper circuit protection.

This tool is wired at the factory for 120V AC operation. It must be connected to a 120V AC, 15 A circuit that is protected by a time-delayed fuse or circuit breaker. To avoid shock or fire, replace power cord immediately if it is worn, cut or damaged in any way.

POWER TOOL SAFETY** WARNING:**

Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.**WORK AREA SAFETY**

Keep work area clean and well lit. Cluttered or dark areas invite accidents.

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

ELECTRICAL SAFETY

Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.

Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of a ground fault circuit interrupter (GFCI) reduces the risk of electric shock.

PERSONAL SAFETY

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Prevent unintentional starting. Ensure the switch is in the OFF position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

POWER TOOL USE AND CARE

Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired. Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

Keep handles and grasping surfaces dry, clean and free from oil and grease. Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

SERVICE

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

SAVE THESE INSTRUCTIONS FOR REFERENCE

SPECIFIC SAFETY RULES

WARNING:

Know your rotary tool. Do not plug the tool into the power source until you have read and understand this Instruction Manual. Learn the tool's applications and limitations, as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire, or serious injury.



Always wear eye protection. Any power tool can throw foreign objects into your eyes and cause permanent eye damage.

ALWAYS wear safety goggles (not glasses) that comply with ANSI safety standard Z87.1. Everyday glasses have only impact resistant lenses. They ARE NOT safety glasses.

WARNING: Glasses or goggles not in compliance with ANSI Z87.1 could cause serious injury when they break.

Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

Always make sure the work surface is free from nails and other foreign objects. Cutting into a nail can cause the bit and the tool to jump and damage the bit.

Never hold the workpiece in one hand and the tool in the other hand when in use. Never place the hands near or below the cutting surface. Clamping the material and guiding the tool with both hands is much safer.

Never lay workpiece on hard surfaces like concrete, stone, etc. Protruding cutting bit may cause the tool to jump.

Always wear safety goggles and dust mask. Use only in well-ventilated area. Using personal safety devices and working in a safe environment reduces risk of injury.

After changing the bits and accessories or making adjustments, make sure the collet nut and any other adjustment devices are securely tightened. Loose adjustment devices will be violently thrown.

Always use the correct collet size. If the collet size is larger than the accessory shank size it will not grip the shank properly, leading to possible injury to the operator or damage to the tool.

Always check accessory bits, grinding stones, cut-off wheels etc. for damage before each use. Damaged accessories can break during use and cause serious injury.

Never use dull or damaged bits. Sharp bits must be handled with care. Damaged bits can snap during use. Dull bits require more force to push the tool, possibly causing the bit to break.

Never touch the bit during or immediately after use. After use the bit is too hot to be touched by bare hands.

EXTENSION CORD SAFETY

WARNING:

Keep the extension cord clear of the working area. Position the cord so it will not get caught on the workpiece, tools or any other obstructions while you are working with the power tool.

Make sure any extension cord used with this tool is in good condition. When using an extension cord, be sure to use one of heavy enough gauge to carry the current the tool will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

The table at below shows the correct size to use according to cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number the heavier the cord.










Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it. Protect your extension cord from sharp objects, excessive heat and damp or wet areas.

Use a separate electrical circuit for your power tools. This circuit must not be less than 14 gauge wire and should be protected with either a 15 AMP time delayed fuse or circuit breaker. Before connecting the power tool to the power source, make sure the switch is in the OFF position and the power source is the same as indicated on the nameplate. Running at lower voltage will damage the motor.

| MINIMUM GAUGE (AWG) EXTENSION CORDS (120V USE ONLY) | | | | | |
|--|----------------------|------------------------|-----------------------|-------------------------|-------------------------|
| Amperage Rating | | Total Length | | | |
| More than | Not more than | 25' (7.5 m) | 50' (15 m) | 100' (7.5 m) | 150' (7.5) m |
| 0 | 6 | 18 | 16 | 16 | 14 |
| 6 | 10 | 18 | 16 | 14 | 12 |
| 10 | 12 | 16 | 16 | 14 | 12 |
| 12 | 16 | 14 | 12 | Not Applicable | |

SYMBOLS

⚠ WARNING: Some of the following symbols may appear on the ROTARY TOOL. Study these symbols and learn their meaning. Proper interpretation of these symbols will allow for more efficient and safer operation of this tool.

| | | | |
|--------------|---------------------------------|---|---|
| V | Volts | $3n \sim$ | Three-phase alternating current with neutral |
| A | Amperes |  | Read all safety warnings and instructions |
| Hz | Hertz | $\equiv - \equiv$ | Direct current |
| W | Watts | n_0 | No load speed |
| kW | Kilowatts |  | Alternating or direct current |
| μF | Microfarads |  | Class II construction |
| L | Liters |  | Splash-proof construction |
| kg | Kilograms |  | Watertight construction |
| H | Hours |  | Protective grounding at terminal, Class I tools |
| N/cm^2 | Newtons per square centimetre | .../min | Revolutions or reciprocations per minute |
| Pa | Pascals | \emptyset | Diameter |
| OPM | Oscillation per minute | 0 | Off position |
| Min | Minutes |  | Directional arrow |
| S | Seconds |  | Warning symbol |
| \sim or AC | Alternating current |  | Wear safety glasses, hearing protection and dust mask |
| $3 \sim$ | Three-phase alternating current | | |

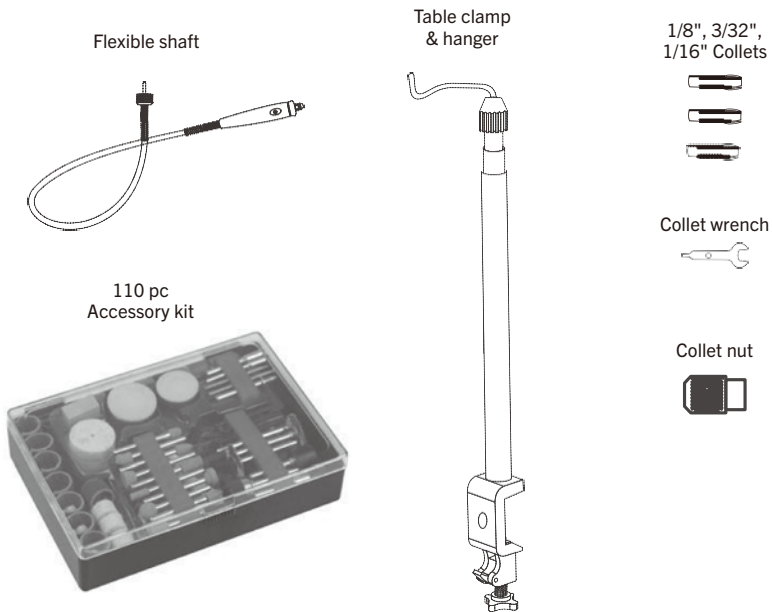
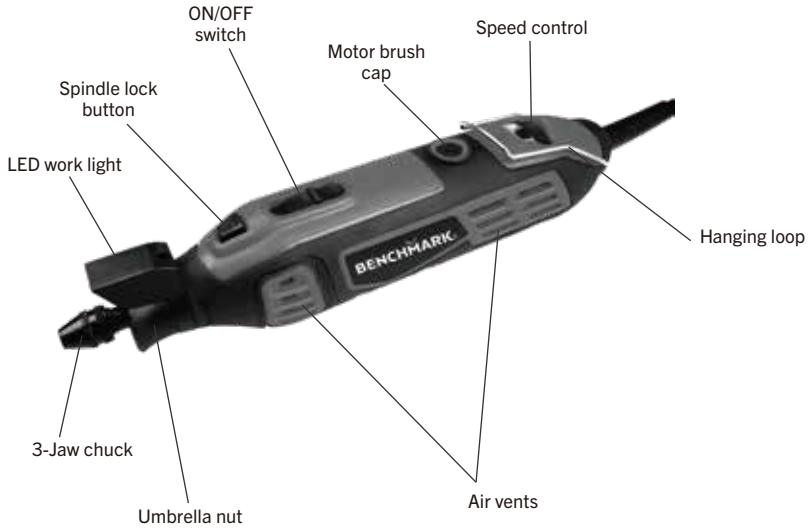


JD3317U

























This symbol designates that this tool is listed with U.S. requirements by TÜV Rheinland. Conforms to UL60745-1, UL60745-2-23.

Certified to CAN/CSA-C22.2 No.60745-1, CAN/CSA-C22.2 No.60745-2-23.

KNOW YOUR ROTARY TOOL



ACCESSORIES

| Key # | Part # | Part Name | Qty |
|---|-----------------------------|-----------------------------|-----|
|  | Brass brush | 1/4" Axial | 1 |
|  | Bristle brush | 7/8" Radial | 1 |
|  | Brass brush | 7/8" Radial | 1 |
|  | Bristle brush | 1/4" Axial | 1 |
|  | Felt polishing wheel | 1/2" | 3 |
|  | Felt polishing wheel | 1" | 3 |
|  | Felt polishing tip | tip 3/8" | 3 |
|  | Mandrel for felt wheel | 1/8" | 1 |
|  | Sanding band | 1/2" | 18 |
|  | Drum sander with 1/8" shank | 1/2" Diameter | 1 |
|  | Diamond ball | 5/64" Taper | 1 |
|  | Diamond bit cylinder | Cylinder | 3 |
|  | Diamond taper | 5/64" Taper | 1 |
|  | Collets | 1/8" | 1 |
|  | Collets | 3/32" | 1 |
|  | Collets | 1/16" | 1 |
|  | Screw mandrel | 1/8" | 1 |
|  | Screw mandrel | 1/8" | 1 |
|  | Heavy duty cut-off wheel | 15/16" x 3/8" x 0.031 Thick | 23 |
|  | Collet wrench | | 1 |
|  | Dressing stone | 3/8" x 3/8" x 1" | 1 |
|  | Sanding disc | 3/4" Circular | 31 |
|  | Various grinding stones | Assorted | 10 |
|  | Collet nut | | 1 |

ACCESSORIES

There are many different types of accessories that can be used with this rotary tool. The following charts identify the most popular accessories and their uses.

NOTE: Please see the accessory case contents on Page 10 to identify the accessories that are included with this rotary tool.

| Accessory Description | Accessory Use |
|--|---|
| Cut-off wheel | Ideal for cutting, grooving and trimming all kinds of materials—including metal, wood and ceramics. You can use it to cut screws and rusted bolts, make slots in screw heads, trim castings and more. |
| Felt polishing wheel | Ideal for polishing most metal surfaces and plastics. Can be used with polishing compound. |
| Mandrel for felt | Use with felt polishing wheels. |
| Sanding band for use with drum sander | For rough shaping and smoothing wood and fiberglass; removing rust from metal surfaces; shaping rubber surfaces. Sanding bands are easily replaceable on drums. |
| Drum sander | For use with sanding bands |
| Screw mandrel | Use with sanding discs, polishing, grinding and cut-off wheels. |
| Aluminum oxide grinding stones & wheels (pink) | Use on metals, castings, welded joints, rivets and rust. Ideal for sharpening, de-burring, rust removal and general-purpose grinding of most materials. |
| Silicon carbide grinding stones & wheels (green) | Designed to work well on stone, glass, ceramics, porcelain and non-ferrous metals. |
| Bristle brush | Use for light de-burring, cleaning and polishing of silverware, jewelry and other precious metals. Can be used with polishing compound. |
| Brass brush | Brass brushes are non-sparking and softer than steel. They will not scratch soft metals like gold, copper, brass, etc. |
| Diamond point | Great for cutting, sawing and carving of hard materials such as marble, concrete, brick, porcelain, ceramics, hard epoxy and soft and hard wood. |
| Dressing stone | Cleans grinding wheels and stones. Shapes or reshapes stones for desired applications. |
| Collet | For use with accessories. |
| Collet wrench | For tightening & loosening collet nut, screw of drum sanders. |
| Multi-purpose drill bit | Cuts wood, plastic, fiberglass, drywall, laminate and aluminum and vinyl siding. |
| Stainless steel brush | Stainless steel brushes do not cause "after-rust" when used on corrosive-resistant materials like pewter, aluminum and stainless steel. |
| Cloth wheel | Use for polishing metal & plastics. Can be used with polishing compound. |
| Rubber polishing wheel | Use for removing small scratches and for polishing ferrous metals. |

| Accessory Description | Accessory Use |
|-----------------------|---|
| Drill bit | Use for drilling in wood, plastic and soft metals. |
| Cutting bit | Use for cutting wood, plastic, fiberglass, aluminum, drywall and vinyl siding. |
| Grinding disc | Use for grinding metals, welds, rivets, rust etc. |
| Grinding compound | Use with grinding stones and discs to increase the rate of material removal. |
| Cutting guide | Use with cutting bit for precise cutting control. To install the cutting guide on the rotary tool, remove the umbrella nut from the tool and thread the cutting guide onto the exposed threads. To adjust the cutting depth, loosen the thumb screw on the cutting guide and slide the guide to the correct depth. Retighten the thumb screw. |

NOTE: This rotary tool will accept all 1/8", 3/32" and 1/16" shanked accessories offered by leading brands, however, attachments such as drill press stands etc. may not be compatible.

ASSEMBLY AND OPERATING

INSTALLING ACCESSORY BITS

1. Turn the switch OFF and disconnect the tool from the power source.
2. Depress the spindle lock button (1) and slowly turn the 3-jaw chuck collet nut (2) until the spindle lock button locks the spindle (Fig. 1).
3. While holding the spindle lock button down, turn the 3-jaw chuck collet nut counter clockwise until the 3-jaw chuck jaws open far enough to allow the accessory bit shank (3) to be inserted into the 3-jaw chuck.
4. Insert accessory shank into the 3-jaw chuck.

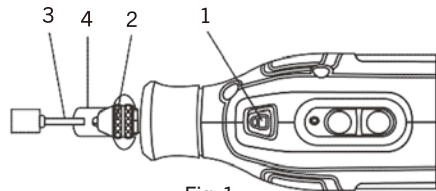


Fig. 1

4. Insert accessory shank into the 3-jaw chuck.

NOTE: Insert accessory shank at least 3/4" into the 3-jaw chuck.

5. Press the spindle lock button and engage it in the spindle. While holding the spindle lock button down, hand-tighten the 3-jaw chuck by turning it clockwise.

NOTE: Do not use pliers to tighten the collet nut. Use the small wrench (4) supplied. Over tightening will cause damage to the tool.

6. Pull on the accessory to ensure it is securely in place.

REMOVING THE 3-JAW CHUCK AND INSTALLING A COLLET

Insert accessory shank at least 3/4" into the 3-jaw chuck. In some instances you may wish to remove the 3-jaw chuck and use the collet nut system to hold the accessory bit. Collet sizes can be 1/8", 3/32" and 1/16". It is important to ensure that the collet size matches the accessory.

NOTE: This tool includes the most commonly used collets: 1/8", 3/32" and 1/16".

⚠ WARNING: Using a collet that is too large for the accessory will result in the accessory possibly being thrown from the tool causing serious injury.

1. Turn the tool switch OFF and remove the plug from the power source.
2. Depress the spindle lock button (1) and slowly turn the 3-jaw chuck (2) until the spindle lock button locks the spindle (3) (Fig. 2).
3. While holding the spindle lock button down, turn the 3-jaw chuck counter clockwise until both the 3-jaw chuck collet nut and the jaw assembly are removed from the spindle.
4. Insert the appropriate sized collet (4) into the spindle and thread the collet nut (5) onto the spindle by turning it clockwise while holding the spindle lock button down.

NOTES:

- The collet nut is supplied with the tool.
- Do not tighten the collet nut without an accessory bit installed in the collet. You will damage the collet.

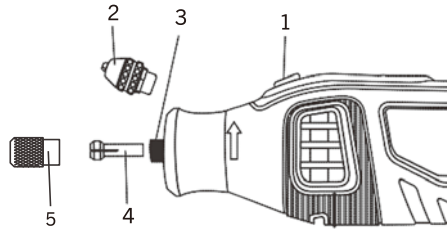


Fig. 2

INSTALLING ACCESSORY BIT WHEN USING THE COLLET NUT SYSTEM

- Turn the switch to the OFF position, and disconnect the plug from the power source.
- Depress the spindle lock button (1), and slowly turn the collet nut (2) until the spindle lock button locks the spindle in place (Fig. 3).
- Hold the spindle lock button down, and turn the collet nut counter clockwise until the collet is loose inside the collet nut.

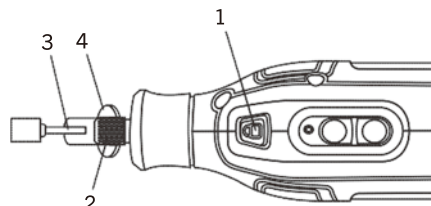


Fig. 3

- Insert the shank of the accessory (3) into collet at least 3/4".

NOTE: Verify that the proper collet is used for the accessory. If the collet is too large, replace it with the next smaller size.

- Press the spindle lock button, and engage it in the spindle. While holding the spindle lock button down, turn the collet nut clockwise by hand to tighten it.

NOTE: Do not use pliers to tighten the collet nut. Use the collet wrench (4) that is provided with the tool. Over-tightening the collet will damage the tool.

- Pull on the accessory to verify that it is held securely in position.

CONNECTING THE FLEXIBLE SHAFT TO THE TOOL

⚠ WARNING: Do not bend the flexible shaft to a radius of less than 6" (15.2 cm) when using it with the rotary tool. Store the flexible shaft carefully when it is not in use, avoiding sharp bends.

- Lock the spindle using the spindle lock button (1) open the 3-jaw chuck (2) as shown in Fig. 4.
- Insert the drive shaft (3) into the 3-jaw chuck as far as it will go.
- Tighten the 3-jaw chuck onto the drive shaft as shown in Fig. 1.

NOTES:

- Do not overtighten the 3-jaw chuck.

- b) The flex shaft can also be attached to the tool using a 1/8" collet and collet nut. Install the collet and collet nut as shown in Fig. 2.

CHANGING THE COLLET AND ACCESSORIES IN THE FLEXIBLE SHAFT

To change the collet or to install an accessory bit in the flexible shaft, refer to the steps listed in the sections entitled "Removing the 3-jaw chuck and installing a collet" (Fig. 2) and "Installing accessory bit when using the collet system" (Fig. 3).

NOTE: You cannot use the 3-jaw chuck with the flexible shaft.

To lock the shaft in place while loosening or tightening the collet nut, press the spindle locking button (1) and rotate the collet nut until the locking button locks the shaft (Fig. 5). Use the collet wrench to loosen or tighten the collet nut.

NOTES:

- a) Do not attempt to loosen or tighten the collet without locking the shaft as described above. Doing so will damage the flexible shaft.
- b) Do not over-tighten the collet nut.

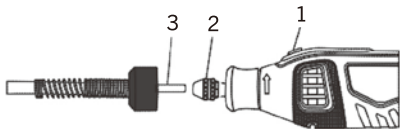


Fig. 4

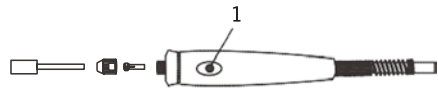


Fig. 5

ASSEMBLING & INSTALLING THE STAND

The C-clamp that holds the hang bar rod can be mounted either horizontally or vertically (Fig. 6a & 6b).

1. To open the clamp (1), pull back on the quick release lever (2) and pull outward on the clamp knob (3).
2. Clamp the C-clamp onto a work table (horizontal surface) or other appropriate vertical surface by pushing inward on the clamp knob. Complete the tightening process by turning the clamp knob clockwise (Fig. 6a & 6b).

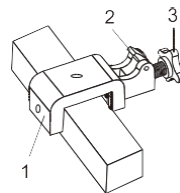


Fig. 6a

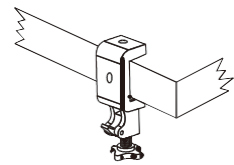


Fig. 6b

NOTE: Do not over tighten to avoid breaking the clamp.

3. Thread screw (3) in the bottom of the hang bar rod (4) into the appropriate mounting hole (5) in the C-clamp (Fig. 7).

NOTE: Do not over tighten. Hand-tighten only.

4. Loosen hang bar sections (6) by turning them counter-clockwise.
5. Pull out each hang bar section approximately 5" and lock into place by turning them clockwise.

NOTE: Do not over tighten. You will damage the locking mechanism.

6. Insert the rotary tool hanger (7) into the top of the hang bar rod.
7. Using the hang loop on the rotary tool (8) hang rotary tool from the stand (Fig. 8).

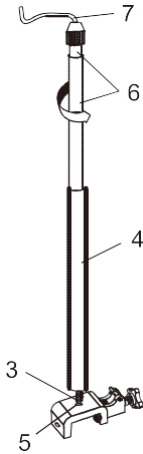


Fig. 7

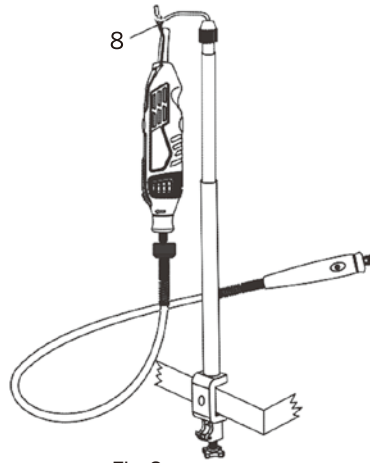


Fig. 8

INSTALLING THE LED WORKLIGHT

1. Remove the standard umbrella nut from the tool (1) by turning it counter clockwise (Fig. 9).
2. Place the worklight mounting hole (2) onto the threaded end of the tool housing (3).
3. Thread the worklight mounting umbrella nut (4) clockwise onto the threaded end of the tool.

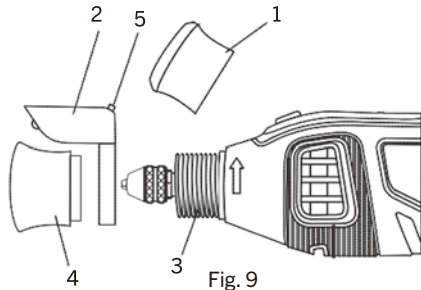


Fig. 9

NOTE: Hand tighten only.

4. To turn the LED light ON, move the switch button (5) to the right. To turn the LED light OFF, move the switch button to the left.

REPLACING BATTERIES IN LED WORKLIGHT

1. Remove the worklight from the tool.
2. Remove the LED module screw (1) using a small \oplus screwdriver (Fig. 10).
3. Lift upward on the front of the LED module (2) and remove it from the LED worklight housing (3).

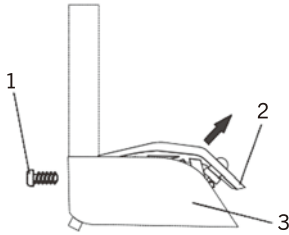


Fig. 10

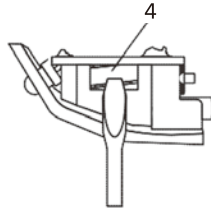


Fig. 11

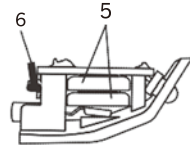


Fig. 12

4. While holding the LED module in one hand, use a small screwdriver to push the two button cells (4) out of the LED module (Fig. 11).

NOTE: The button cells can only be removed from one side of the LED module.

5. Install two new CR927 button cells (5) to replace the button cells that have been removed (Fig 12).

NOTES:

- a. Make sure the "-" (small side) of the button cells are facing upward.
 - b. Make sure the switch actuator (6) is still on the switch button and tilted away from the switch.
6. Reinstall the LED module into the LED worklight housing.

NOTE: When placing the LED module back into the LED worklight housing, tilt the module to feed the switch actuator through the slot in the top of the worklight housing.

7. When the LED module is properly reinstalled into the LED worklight housing, fasten it in place with the screw that was removed.

⚠ WARNING: For safety reasons, the operator must read the sections of this Owner's Manual entitled "GENERAL SAFETY WARNINGS", "POWER TOOL SAFETY", "SPECIFIC SAFETY RULES", "EXTENSION CORD SAFETY" and "SYMBOLS" before using this rotary tool.

Verify the following every time the rotary tool is used:

- 1. Safety glasses, safety goggles, or face shield are being worn.**
- 2. Hearing protection is being worn.**
- 3. Accessory is in good condition and not damaged in any way.**
- 4. Workpiece is properly secured.**

Failure to adhere to these safety rules can greatly increase the chances of injury.

ON/OFF SWITCH

To turn the switch (1) ON, slide it forward (Fig. 13). To turn the switch OFF, slide it back toward the rear of the tool.

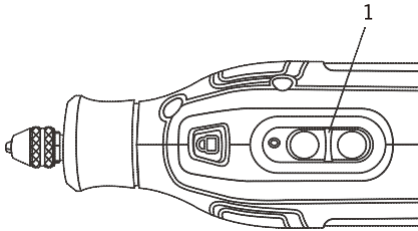


Fig. 13

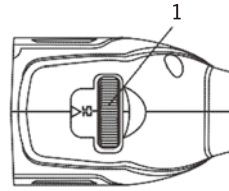


Fig. 14

SPEED CONTROL WHEEL

The speed control wheel (1) is located at the rear of the tool (Fig. 14). Speeds from 0 to 35,000 RPM can be set by rotating the speed control wheel to show the desired speed (in thousands RPM).

SELECTING THE PROPER SPEED

The different types of operations that can be performed require that the rotary tool be used at different speeds. The following chart outlines some of the basic speed settings:

| OPERATION | SPEED (RPM) |
|----------------|-------------|
| Sanding | 13,000 |
| Cutting metal | 35,000 |
| Sanding wood | 13,000 |
| Cutting hard | 29,000 |
| Engraving | 27,000 |
| Sawing | 25,000 |
| De-burring | 19,000 |
| Drilling holes | 17,000 |
| Removing | 13,000 |
| Sharpening | 9,000 |
| Polishing | 9,000 |

MAINTENANCE

GENERAL

⚠️ WARNING: When servicing, use only identical replacement parts. The use of any other part may create a hazard or damage the rotary tool.

Do not abuse power tools. Abusive practices can damage the tool and the workpiece.

⚠️ WARNING: Do not attempt to modify this rotary tool or to create accessories. Any such alteration or modification is considered to be misuse, and could result in a hazardous condition that may lead to serious injury. Doing so will also void the warranty.

CLEANING

Do not use solvents to clean plastic parts. Many plastics are susceptible to damage from various types of commercial solvents. Use a clean cloth to remove dirt, dust, oil, grease, etc.

⚠️ WARNING: Do not allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come into contact with plastic parts. These substances contain chemicals that can damage, weaken, or destroy plastic.

Power tools are subjected to accelerated wear and possible premature failure when they are used on fiberglass boats and sports cars, wallboard, spackling compounds, or plaster. The chips and grindings from these materials are extremely abrasive to some parts of power tools, including bearings, brushes, commutators, etc. Therefore, it is recommended that this tool not be used for extended work on any fiberglass material, wallboard, spackling compound, or plaster. If this rotary tool is used on these materials for an extended period, it must be cleaned frequently by blowing it out with an air jet.

⚠️ WARNING: Wear safety goggles or safety glasses that have side shields whenever performing any operation with a rotary tool. It is also critical to wear safety goggles or safety glasses that have side shields, as well as a dust mask, when blowing dust out of the tool using an air jet. Failure to observe these safety precautions could result in permanent eye or lung damage.

LUBRICATION

All of the bearings in this rotary tool have been lubricated with a sufficient quantity of high-grade lubricant for the life of the tool under normal conditions. No further lubrication is required.

REPLACING MOTOR BRUSHES

The carbon motor brushes will wear down and require replacing. The time intervals between replacements will vary depending upon the type of materials being cut and the hours of use. It is recommended that the brushes be checked after each 10 hours of use. When the length of the carbon brush reaches 1/4" (6.35 mm), the brushes should be replaced.

1. Remove the motor brush caps (1) with a small slot screwdriver by turning them counter clockwise (Fig. 15).
2. Remove the brush & spring assemblies (2).
3. Insert new brush & spring assemblies.
4. Reinstall the brush caps.

NOTE: When placing the LED module back into the LED worklight housing, tilt the module to feed the switch actuator through the slot in the top of the worklight housing.

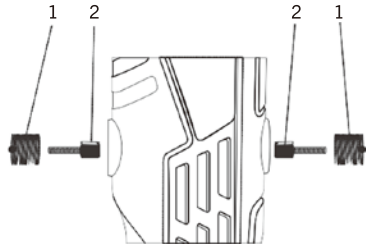
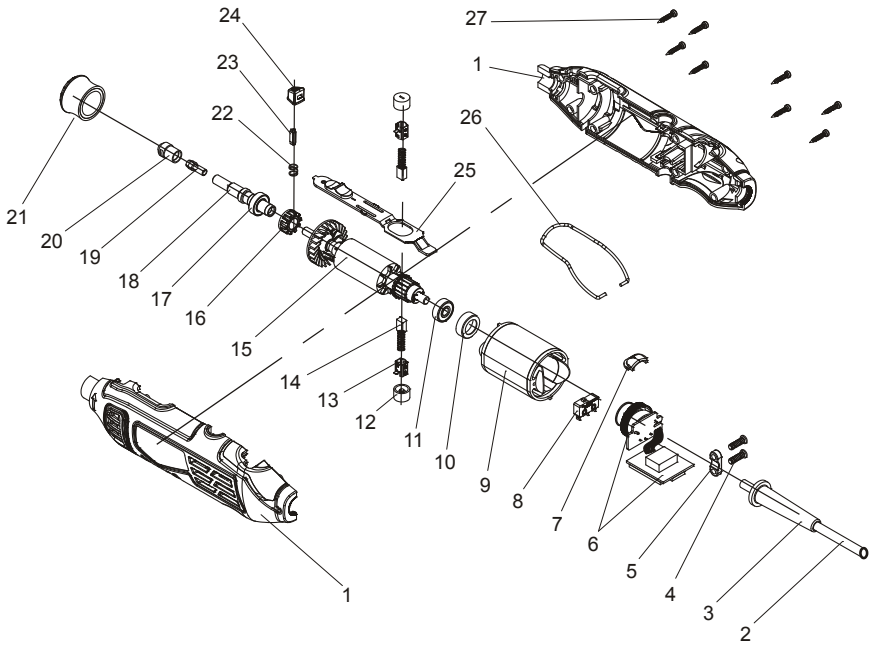
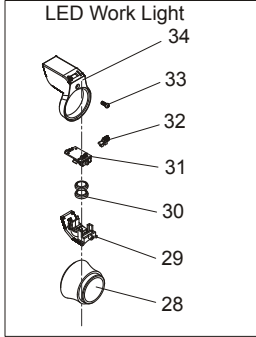


Fig. 15

EXPLODED VIEW



PARTS LIST

⚠ WARNING When servicing, use only original equipment replacement parts. The use of any other parts may create a safety hazard or cause damage to the rotary tool.

Any attempt to repair or replace electrical parts on this rotary tool may create a safety hazard unless repairs are performed by a qualified technician. For more information, call the Toll-free Helpline, at 1-866-349-8665.

Always order by key number.

| Key # | Part # | Part Name | Quantity |
|-------|------------|-------------------------------|----------|
| 1 | 3011160022 | Housing | 1 |
| 2 | 1190030072 | UL power cord | 1 |
| 3 | 3140010054 | Strain relief | 1 |
| 4 | 4030010074 | ST4*4 | 2 |
| 5 | 3150020001 | Cable clamp | 1 |
| 6 | 1130010277 | Speed control PCB | 1 |
| 7 | 3110040012 | Transparent cover | 1 |
| 8 | 1062020076 | Micro switch | 1 |
| 9 | 1020160026 | Stator | 1 |
| 10 | 3140040013 | 606 bearing sleeve | 1 |
| 11 | 4010010104 | Bearing 606-2RS | 1 |
| 12 | 3150140030 | Carbon brush cap | 2 |
| 13 | 2030070058 | Carbon brush holder | 2 |
| 14 | 1230010167 | Carbon brush assembly | 2 |
| 15 | 1010160030 | Rotor | 1 |
| 16 | 2010190013 | Spindle lock wheel | 1 |
| 17 | 4010010154 | Bearing 689-2Z | 1 |
| 18 | 2040040133 | Sleeve | 1 |
| 19 | 2040280002 | 3-jaw chuck | 1 |
| 20 | 2040190012 | 3-jaw chuck nut | 1 |
| 21 | 1160030084 | Umbrella nut | 1 |
| 22 | 1160030084 | Spindle lock spring | 1 |
| 23 | 2010160033 | Spindle lock pin | 1 |
| 24 | 3120020165 | Spindle lock button | 1 |
| 25 | 3120110075 | ON/OFF switch operating slide | 1 |
| 26 | 2050080209 | Operating slide | 1 |
| 27 | 4030010034 | Hook | 8 |
| 28 | 3150100028 | ST3*16 | 1 |

| Key # | Part # | Part Name | Quantity |
|-------|------------|----------------------------|----------|
| 29 | 3150160264 | Umbrella nut for LED light | 1 |
| 30 | 2360040002 | CR927 button battery | 2 |
| 31 | 1130030069 | LED circuit board | 1 |
| 32 | 3120030142 | LED On/Off switch | 1 |
| 33 | 4030010300 | ST2*5 | 1 |
| 34 | 3150160265 | LED covering lens | 1 |

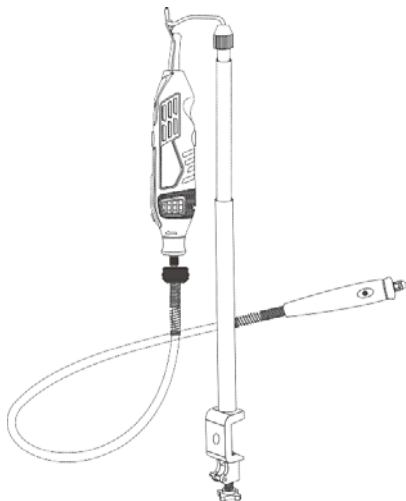
WARRANTY

BENCHMARK 1.6AMP ROTARY TOOL WARRANTY

If this Benchmark tool fails due to a defect in material or workmanship within five years from the date of purchase, return it to any Home Hardware store with the original bill of sale for exchange. 3-year warranty for the battery and charger. This warranty does not include expendable parts including but not limited to blades, brushes, belts, light bulbs.

This warranty covers defects in material or workmanship only. It does not cover normal wear and tear, failure due to abuse/misuse, or defects caused by careless or accidental mishandling. If this Benchmark product is used for commercial or rental purposes, this warranty does not apply.

ELECTRONIC ROTARY TOOL KIT



5 year limited warranty on tool

BENCHMARKTM_{MC}

BENCHMARK TOOLS CANADA

ST. JACOBS, ONTARIO N0B 2N0

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CUSTOMER SERVICE/TECH SUPPORT

1-866-349-8665

1280-000

Made in China



*This BenchmarkTM product carries a five (5) year LIMITED warranty against defects in workmanship and materials. See Owner's Manual for full details.



JD3317U

**READ ALL INSTRUCTIONS BEFORE FIRST USE.
KEEP THIS MANUAL FOR FUTURE REFERENCE.
KEEP AWAY FROM CHILDREN.**



**WEAR CSA APPROVED
EYE PROTECTION**



**WEAR EAR
PROTECTION**



**WEAR A
FACE MASK**